Goddard Procedures and Guidelines

DIRECTIVE NO. GPG 8700.4
EFFECTIVE DATE:
EXPIRATION DATE:

APPROVED BY Signature:
NAME: A. V. Diaz
TITLE: Director

Responsible Office: 300/Office of Systems Safety and Mission Assurance

Title: TECHNICAL REVIEW PROGRAM

Preface

P1. PURPOSE

This procedure defines the process for technical review of GSFC products.

P2. APPLICABILITY

This procedure applies to the development of all GSFC products and processes covered by the scope of the GSFC Quality Management System (see GPD 1270.3).

P3. AUTHORITY

GPD 1270.3, GSFC Quality Management System (QMS)

P4. REFERENCES

a. NPG 7100.5, Program and Project Logistics Policy

b. NPG 7120.5, Program/Project Management Processes and Requirements

c. GPG 1270.4, Quality System

d. GPG 1310.1, Customer Agreement

P5. CANCELLATION

a. GMI 8010.1, Flight Assurance Design review Program

b. GMI 8020.1, Orbital Launch Services Review Program

Procedure

1. DEFINITIONS

a. Project - The set of management, administrative, and technical activities leading to the delivery of a Center product in response to a Customer Agreement (see GPG 1310.1) and in accordance with Agency and GSFC requirements (see NPG 7120.5 and NPG 7100.5)

b. Performing Directorate – The Performing Directorate has responsibility for management of a Project and for assigning the Product Manager.

c. Product Manager – The Product Manager is designated as having management responsibility for the Project. A Product Manager may be assigned to any directorate and have a title such as project manager, principle investigator, RTOP manager, or product design lead.

d. Product Design Lead (PDL) - The manager or leader with overall responsibility for managing the design activity, managing the technical and organizational interfaces identified during design planning, and where required, forming and leading the Product Design Team (PDT). A Product Manager may be assigned to any directorate and have a title such as project manager, mission manager, instrument manager, subsystem technical manager, integrated product development team leader, lead engineer, cognizant engineer, etc.

e. Peer Review – A technical review that evaluates a design's technical status using a team of appropriate specialists who are independent from the product design team.

f. Peer Review Plan (PRP) - A document which delineates the number of and schedule for peer reviews. It states how and where the design review documentation will be filed and maintained.

g. System Review – A technical review that systematically evaluates a Project's technical status. The System Review team consists of a chairperson from the Systems Review Office and a team of specialists independent from the Product Design Team.

h. System Review Plan (SRP) - A document which delineates the type and schedule for the System Reviews of a product. It states how and where the design review documentation will be filed and maintained.

i. Request for Action (RFA) - A documented request from the review chairperson that requests additional information or an action.

2.0 IMPLEMENTATION

2.1 Technical Review Plans

2.1.1 System Review Plan (SRP)

The Chief, Systems Review Office (SRO), and the Product Manager, shall identify the schedule and subject of System Reviews in a System Review Plan (SRP) (see GPG 1270.4). The Performing Directorate, the Office of Systems Safety and Mission Assurance, and the Center Director shall approve the SRP. The SRP development process shall consider product complexity, criticality, new technology,

flight history, mission objectives, and mandated constraints. The maintenance of System Review records shall be addressed in the SRP.

2.1.2 Peer Review Plan (PRP)

The PDL shall identify the schedule and subject of peer reviews in a PRP. The Product Manager shall approve the PRP (see GPG 1270.4). The PRP development process shall consider complexity, criticality, new technology, flight history, and mandated constraints. The maintenance of peer review records shall be addressed in the PRP.

2.2 Review Teams

2.2.1 System Review Team

The Chief, SRO, shall appoint the chairperson for the System Review team. The chairperson shall select technical experts who are independent of the Project as review team members. Personnel outside the Center may serve as review team members or as a co-chairperson.

2.2.2 Peer Review Team

The Product Manager shall appoint a chairperson for the Peer Review team who is independent of the PDL. The chairperson shall select appropriate technical experts who are independent of the PDL as review team members. Personnel outside the Center may serve as review team members or as a co-chairperson.

2.3 Conducting Reviews

The chairperson shall direct the review and the PDL and the product design team shall present the review materials. At the completion of each review, the chairperson shall document and transmit RFA's to the Product Manager (in the case of System Reviews) or the PDL (in the case of Peer Reviews). The chairperson will develop a schedule for RFA responses in coordination with the recipient. The chairperson shall determine the acceptability of each RFA response and return unacceptable responses with appropriate annotations regarding remaining issues.

2.4 Review Summary

2.4.1 Peer Review Summary

After the conclusion of a Peer Review, the chairperson shall prepare a summary of results for the PDL and the Product Manager.

2.4.2 System Review Summaries

After the conclusion of the System Review, the chairperson will prepare a summary of the results for the Chief, SRO, and the Product Manager within 30 calendar days. The chairperson shall also prepare an assessment of Product status for approval by the Chief, SRO, and the Director, Office of Systems Safety and Mission Assurance and subsequent submission to Code 100.

2.5 System Review Program Summary

After the final System Review is completed and all RFA responses are approved by the System Review chairperson, the chairperson shall prepare a summary of the Project's System Review Program for approval by the Chief, SRO, and the Director, Office of Systems Safety and Mission Assurance and subsequent submission to Code 100.

3. RECORDS

a. System Review Plan

b. Peer Review Plan

c. System Review and Peer Review Package

d. System Review and Peer Review Requests for Action (RFA's) and Responses

e. Peer Review Summary

System Review Flowchart

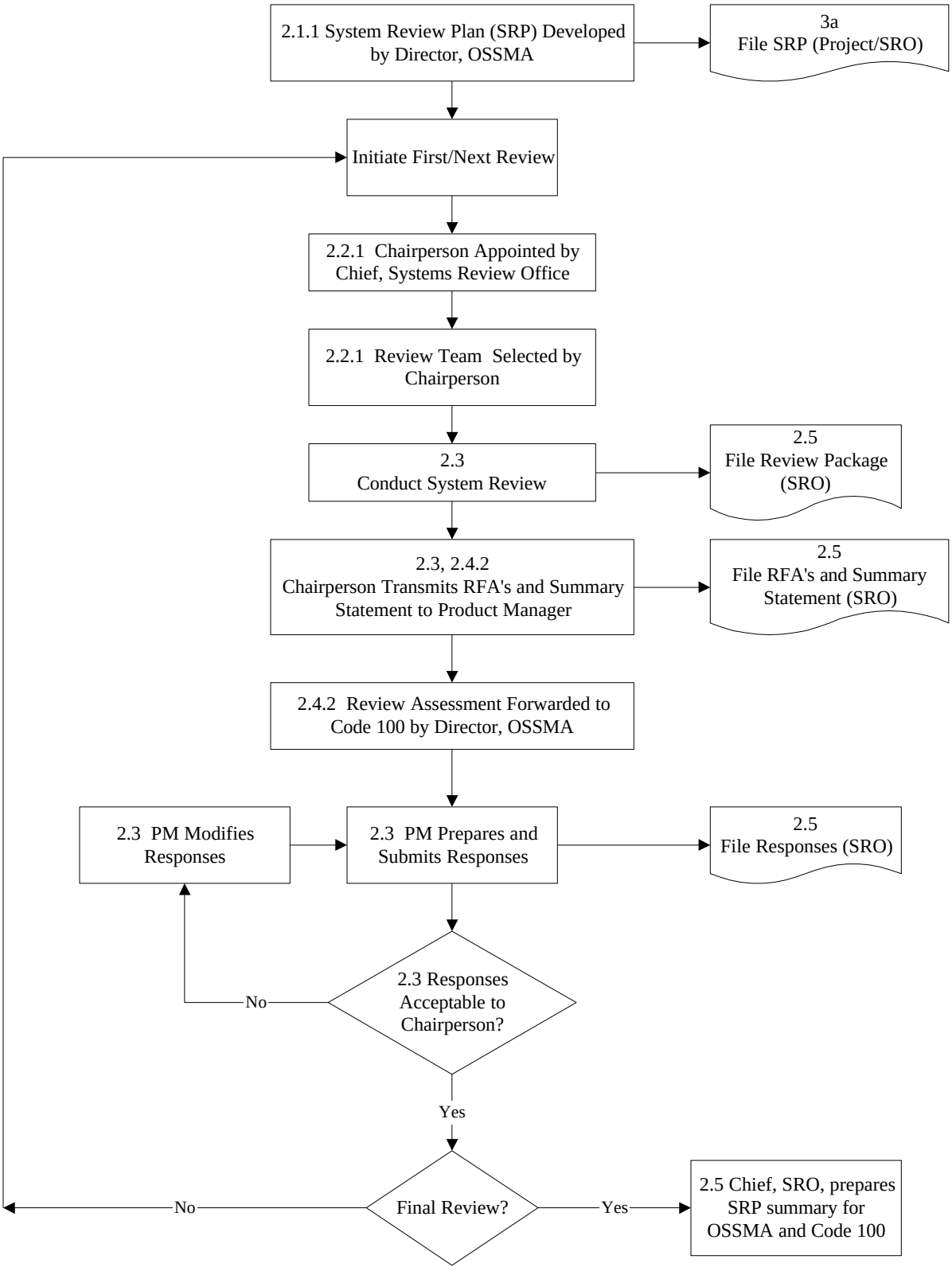

Figure 1

Peer Review Flowchart

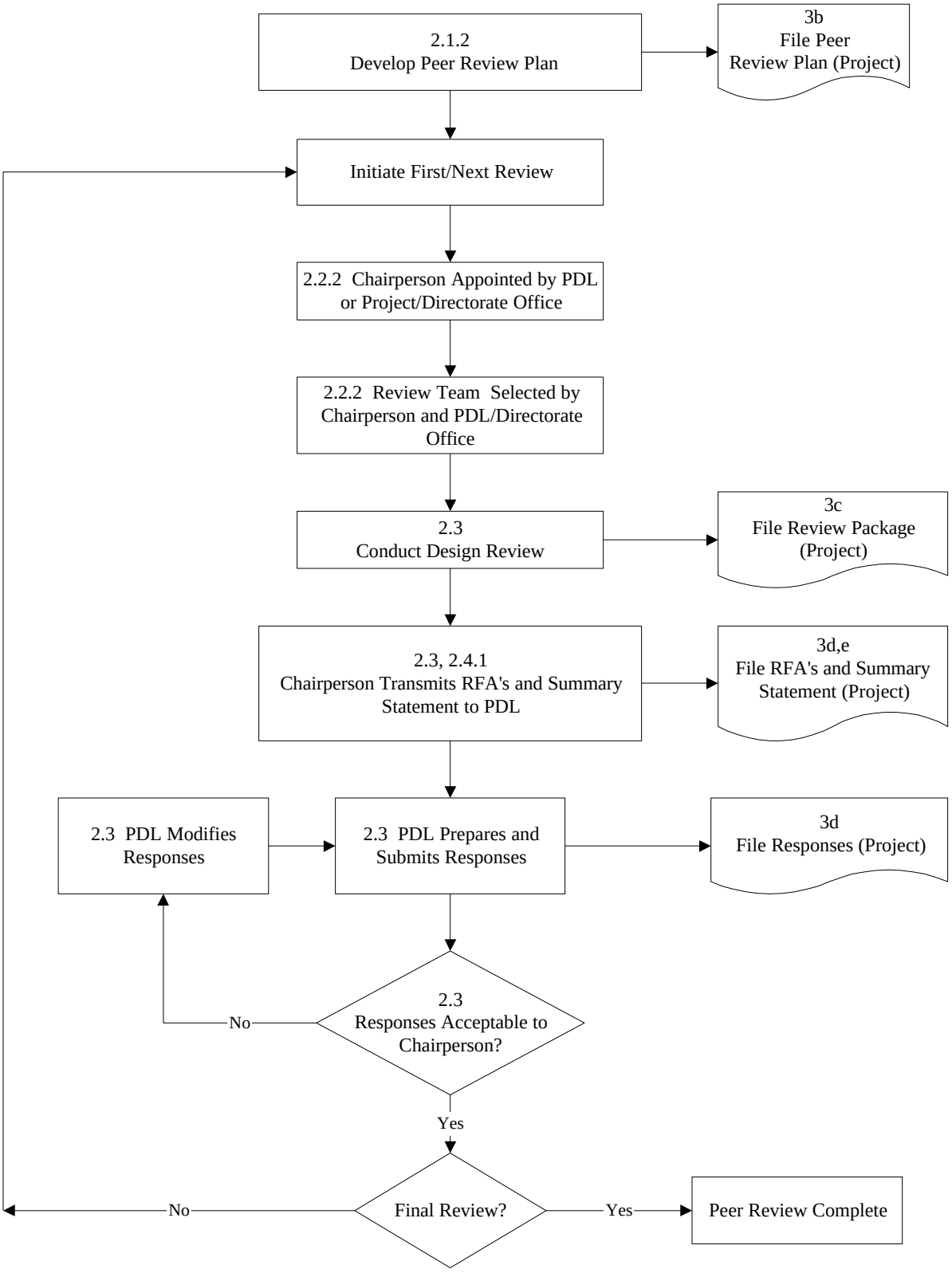

Figure 2